

Application No. 10/036,590

**REMARKS**

Claims 1 to 8 and 10 to 25 are pending in the application. Claims 1 to 8, 11 to 20, and 22 to 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gundlach et al. in view of Vieira et al. (U.S. Patent 5,686,633). Claims 1 to 7, 11 to 20, and 22 to 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gundlach et al. in view of Yokoyama et al. (U.S. Patent 4,256,493). Claims 1 to 4 and 10 to 25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gundlach et al. in view of either Bergthaller et al. (U.S. Patent 5,855,657) or Ma et al. (U.S. Patent 6,432,523).

Applicants respectfully traverse the rejections of the claims. The present invention is directed to an ink composition comprising (a) water and (b) a complex of (i) an anionic dye, (ii) an anionic lightfastness-imparting agent which is an ultraviolet absorber, a thiosulfate salt, a trithionate salt, a tetrathionate salt, or a mixture thereof, and (iii) a polyquaternary amine compound.

The Examiner has rejected claims 1 to 4 and 10 to 25 under §103 as being unpatentable over Gundlach et al. in view of either Bergthaller et al. or Ma et al.

Bergthaller et al. discloses an ink jet ink that results in improved color-fastness if the ink contains a water-soluble inorganic thiosulphate, trithionate, or tetrathionate or an organic thiosulfate, in an amount of 0.2 to 8 percent by weight with respect to the ink base.

Ma et al. discloses a process wherein at least one of the following compounds is included on a surface layer of a print medium and in an ink jet ink formulation to be printed thereon: potassium iodide,

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sodium iodide, sodium thiosulfate, potassium thiosulfate, and sodium thiocyanate. The addition of at least one of these compounds to both the print medium and the ink jet ink can improve lightfastness on the order of eight to thirteen times or more on porous glossy media. These additives are particularly effective with water soluble dyes, including such dyes as Reactive Black 31, Direct Blue 199, Magenta 377, and Direct Yellow 132.

The Examiner has stated that Gundlach et al. discloses an ink comprising water, 0.1 to 40 percent nonpolymeric salt, 1 to 5 percent anionic dye including Acid Red 52, Acid Yellow 23, and Acid Blue 9, and a polyquaternary amine such as polydiallyl dimethyl ammonium, polyquaternized polyvinylamine, polyquaternized polyallylamine, epichlorohydrin/amine, cationic amido amine, and copolymers of vinyl pyrrolidone and vinyl imidazolium salt, that the reference discloses that the ink is preferably printed using a thermal ink jet printer but also discloses the use of other conventionally known ink jet printing methods such as acoustic ink jet printing and piezoelectric ink jet printing, and that the difference between this reference and the present claimed invention is the requirement in the claims of (a) an anionic lightfastness-imparting agent, and (b) the number of cationic sites on the polyquaternary amine per one anionic site on the dye or the number of cationic sites on the polyquaternary amine per one anionic site on the lightfastness imparting agent.

The Examiner has stated that with respect to difference (a), Bergthaller et al., which is drawn to ink jet inks containing dyes including anionic dyes such as Acid dyes, discloses the use of 0.2 to 8

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percent thiosulfate, trithionate, or tetrathionate salts to produce ink with improved colorfastness, that alternatively, Ma et al., which is drawn to ink jet inks, discloses the use of 1 to 8 percent thiosulfate salt to improve lightfastness, and that in light of the motivation for using anionic lightfastness agents as disclosed by either Bergthaller et al. or Ma et al., it would have been obvious to one of ordinary skill in the art to use such lightfastness agents in the ink of Gundlach et al. to produce an ink with improved colorfastness or lightfastness and thereby arrive at the claimed invention.

The Examiner has stated that with respect to difference (b), Gundlach et al. discloses that the number of cationic sites on the polyquaternary amine compound must be larger than the number of anionic sites on the dye to prevent the polymer from precipitating, but contains no explicit disclosure of the number of cationic sites on the polyquaternary amine per one anionic site on the dye or the number of cationic sites on the polyquaternary amine per one anionic site on the lightfastness imparting agent, and that given that Gundlach et al. discloses that the number of cationic groups should be larger than the number of anionic groups to avoid precipitation, it would have been obvious to one of ordinary skill in the art to control the number of cationic sites on the polyquaternary amine per one anionic site on the dye or per one anionic site on the lightfastness imparting agent to values, including that presently claimed, to prevent precipitation and to produce an ink with excellent shelf stability and thereby arrive at the claimed invention. The Examiner is thus of the position that these references, viewed in

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combination, render obvious the present invention as recited in claims 1 to 4 and 10 to 25.

Applicants disagree with this position. Gundlach et al. neither teaches nor suggests the use of lightfastness agents such as ultraviolet absorbers, thiosulfate salts, trithionate salts, or tetrathionate salts in the inks disclosed therein. Bergthaller et al. and Ma et al. both teach simple addition of lightfastness agents into inks, and neither teach nor suggest that such agents could or should form complexes with other ink ingredients. Bergthaller et al. and Ma et al. further fail to teach or suggests inks containing polyquaternary amines. One of ordinary skill in the art would not be motivated to view these particular references in combination and would not be led to make an ink wherein both an anionic dye and an anionic lightfastness-imparting agent are complexed to a polyquaternary amine. As stated in the present application:

it is believed that in the inks according to the present invention, the lightfastness-imparting agent and the anionic dye are both complexed to the polyquaternary amine compound, and are thus in close proximity to each other; accordingly, the lightfastness-imparting agent is always in a location wherein it can function most efficaciously in protecting the chromophore from degradation caused by short wave radiation such as ultraviolet radiation. This protection is particularly important in ink compositions that employ an anionic dye in combination with cationic fixing agents.

As further stated in the present application:

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it is believed that incorporation of anionic lightfastness agents in accordance with the teachings of this invention promote the lightfastness of ternary mixtures of an anionic lightfastness-imparting agent and anionic dye in association with a polyquaternary amine compound by separating the dye molecules associated with the anionic polymer with anionic reagents that can actively interact with photoexcited dye molecules to promote non-destructive recombination of photoexcited anionic radicals and intercept destructive free-radical intermediates.

Nothing in any of these references, viewed either alone or in combination, teaches or suggests such an ink. The Examiner appears to have considered various portions of the references cited, in each instance viewing the cited portion in isolation from the context of the entire reference, and combined these isolated portions to arrive at the present invention with the benefit of hindsight. Using hindsight or applying the benefit of the teachings of the present application when determining obviousness, however, is impermissible; the references applied must be reviewed without hindsight, must be reviewed as a whole, and must suggest the desirability of combining the references. Lindemann Maschinenfabrik v. American Hoist & Derrick Co., 221 U.S.P.Q. 481 (Fed. Cir. 1984). The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure. In re Dow Chemical, 5 U.S.P.Q. 2d 1529 (Fed. Cir. 1988). The Examiner is using

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Applicants' disclosure as a recipe for selecting the appropriate portions of the prior art to construct Applicants' ink. A piecemeal reconstruction of the prior art patents in light of Applicants' disclosure is not a basis for a holding of obviousness. In re Kamm et al., 172 U.S.P.Q. 298 (C.C.P.A. 1972). The mere fact that the prior art inks could have been modified does not make the modification obvious unless the prior art suggested the desirability of such a modification. In re Gordon, 221 U.S.P.Q. 1125, (Fed. Cir. 1984); Jones v. Hardy, 220 U.S.P.Q. 1021, (Fed. Cir. 1984).

The Examiner may be of the position that the invention claimed in the present application would be obvious to try after reviewing the cited references. Obvious to try, however, is not the standard by which obviousness is determined under 35 U.S.C. §103. In re Geiger, 2 U.S.P.Q. 2d 1276 (Fed. Cir. 1987); In re Yates, 211 U.S.P.Q. 1149 (CCPA 1981); In re Goodwin, 576 F.2d 375, 198 U.S.P.Q. 1 (CCPA 1978). Applicants direct attention to the decision in In re Geiger, 2 U.S.P.Q. 2d 1276 (Fed. Cir. 1987). In this case, the invention was a method of inhibiting scale formation on and corrosion of metallic parts in cooling water systems by use of compositions containing (1) a sulfonated styrene/maleic anhydride (SSMA) copolymer, (2) a water soluble zinc compound, and (3) an organo-phosphorus acid compound or water soluble salt thereof. The Federal Circuit discussed three references cited against the claimed invention. The first, *li*, disclosed use in cooling water systems of scale and corrosion prevention compositions comprising a polymeric component in combination with one or more compounds selected from the group consisting of inorganic phosphoric acids and water soluble salts thereof, phosphonic acids and water soluble salts

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thereof, organic phosphoric acid esters and water soluble salts thereof, and polyvalent metal salts; the li polymeric component could contain maleic acid and styrene monomers, but there was no disclosure of the specific copolymer SSMA required in Geiger's claims. The second reference, Snyder '733, disclosed a method for treating cooling water systems prone to scale formation by the addition of a composition comprising an acrylic acid/lower alkyl/hydroxy acrylate copolymer and another polymeric component, which could be SSMA or a styrene/maleic anhydride copolymer; this reference noted that boiler and cooling water systems share a common problem in regard to scale deposit formation and that use of a styrene/maleic anhydride copolymer to prevent scale in boiler water systems was known. The third reference, Hwa, disclosed a method for treating boiler water systems that are prone to scale formation by addition of a composition comprising SSMA and an organo-phosphorus acid component. The Board had held that, based upon the prior art and the fact that each of the three components of the composition used in the claimed method were conventionally employed in the art for treating cooling water systems, it would have been prima facie obvious, within the meaning of 35 U.S.C. §103, to employ these components in combination for their known functions and to optimize the amount of each additive. The Federal Circuit reversed, stating that li did not suggest use of SSMA as its claimed polymeric component and did not require the presence of an organophosphorus acid compound or a zinc compound, that although Snyder '733 disclosed the use of SSMA, it was for the purpose of showing that it, or one of three other specifically recited copolymers, could be

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used in combination with yet another polymeric component to prevent scale formation, and that while Hwa did disclose the specifically-recited organophosphorus acid compound, it provided no suggestion to add a zinc compound to its disclosed combination of SSMA and organophosphorus acid compounds, or to use SSMA in combination with an organophosphorus acid compound in the treatment of a cooling water system, where the characteristics could differ significantly from those in Hwa's boiler water system. The court concluded, "At best, in view of these disclosures, one skilled in the art might find it obvious to try various combinations of these known scale and corrosion prevention agents. However, this is not the standard of 35 U.S.C. §103." More recently, the Court of Appeals for the Federal Circuit has stated: "With hindsight, we could perhaps agree that the Houghton article seems like an obvious place to start to address the need in the power plant industry for an improved carbon-catalyzed deoxygenation process employing hydrazine that can be used commercially in a variety of applications. But, "obvious to try" is not the standard." Ecolchem Inc. v. Southern California Edison, 56 U.S.P.Q. 2d 1065, 1075 (Fed. Cir. 2000). Since nothing in the cited references, viewed in combination, teaches or suggests to one of ordinary skill in the art an ink as recited in claims 1 to 4 and 10 to 25, Applicants are of the position that these claims are patentable with respect to the teachings of the cited references, and accordingly respectfully request reconsideration and withdrawal of this ground for rejection.

Applicants further point out that nothing in the combination of cited references teaches or suggests to one of ordinary



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skill in the art the present invention as recited in claim 12, which recites specific numbers of cationic sites on the polyquaternary amine molecule for every one anionic site on the lightfastness-imparting agent molecule, and claim 13, which recites specific molar ratios of dye molecules to lightfastness-imparting agent molecules. Since the references do not teach or suggest the specific combination of polyquaternary amine and anionic lightfastness agent in an ink, these references further do not teach or suggest desirable ratios for these values. Accordingly, Applicants are of the position that these claims are particularly in condition for allowance.

In response to Applicants' position as set forth in the previous Amendment with respect to the rejection of claims 1 to 8 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of Vieira et al. and the rejection of claims 1 to 7 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of Yokoyama et al., the Examiner has stated that while there is no disclosure of anionic lightfastness agents in Gundlach et al. and no disclosure of a complex between an anionic dye, an anionic lightfastness agent, and a polyquaternary amine compound in Gundlach et al., Vieira et al., or Yokoyama et al., Gundlach et al. discloses that upon mixing the anionic dye and the polyquaternary amine compound a complex is formed, and the combination of Gundlach et al. with Vieira et al. or Yokoyama et al. discloses an anionic dye, polyquaternary amine, and anionic lightfastness agent, and these ingredients would intrinsically form a complex as recited in the present claims. Similarly, the Examiner has stated that while there is no disclosure in either Vieira et al. or Yokoyama

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et al. of a polyquaternary amine compound, these references are used as teaching references, and that it is not necessary for these secondary references to contain all of the features of the presently claimed invention; rather, these references teach a certain concept, namely the use of anionic lightfastness agents in ink jet inks, and that in combination with the primary reference, disclose the presently claimed invention.

Applicants, however, are of the position that one of ordinary skill in the art would not be motivated to combine the teachings of the references as the Examiner has done, for the previously stated reasons.

In response to Applicants' position that there is no motivation to combine the references as the Examiner has done, as set forth in the previous Amendment with respect to the rejection of claims 1 to 8 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of Vieira et al. and the rejection of claims 1 to 7 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of Yokoyama et al., the Examiner has stated that Gundlach et al. is drawn to an ink jet ink and discloses an ink comprising anionic dye and a polyquaternary amine, that both Vieira et al. and Yokoyama et al. are drawn to ink jet inks that comprise anionic dyes such as those utilized in Gundlach et al. and that each provides motivation for using an anionic lightfastness agent, i.e. to produce a stable ink that will not fade or discolor (Vieira et al.) or to produce ink with good resistance to light that will not clog the printer nozzles (Yokoyama et al.), that Vieira et al. and Yokoyama et al. are drawn to the same field of endeavor as Gundlach et al., that Vieira et al. and Yokoyama et al. disclose motivation for using

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an anionic lightfastness agent, and that there is thus proper motivation to combine these references.

In response to Applicants' position that the Examiner's conclusion of obviousness is based on improper hindsight reasoning, the Examiner has stated that "it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper." The Examiner has cited In re McLaughlin, 443 F.2d 1392, 170 U.S.P.Q. 209 (C.C.P.A. 1971) as authority for this position.

Applicants disagree with these positions. None of the cited references suggests or teaches the desirability of combining the elements of the present invention as claimed. Obviousness cannot be established by combining references to arrive at the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. In re Geiger, 2 U.S.P.Q. 2d 1276 (Fed. Cir. 1987); Carella v. Starlight Archery and Pro Line Co., 804 F.2d 135, 231 U.S.P.Q. 644 (Fed. Cir. 1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. (BNA) 929 (Fed. Cir. 1984). When determining patentability under §103, the Examiner must consider the invention as a whole, and cannot view each element of the claim separately with respect to the prior art. See, e.g., Jones v. Hardy, \_\_\_ F.2d \_\_\_, 220 U.S.P.Q. 1021 (BNA) (Fed. Cir. 1984). When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for

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the combination other than the hindsight gleaned from the invention itself. Uniroyal Inc. v. Rudkin Wiley Corp., \_\_\_ F. 2d \_\_\_, 5 U.S.P.Q. 2d 1435 (Fed. Cir. 1988); Interconnect.Planning Corp. v. Fell, 774 F. 2d 1132, 227 U.S.P.Q. 543 (Fed. Cir. 1985). It is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention. Uniroyal Inc. v. Rudkin Wiley Corp., \_\_\_ F. 2d \_\_\_, 5 U.S.P.Q. 2d 1435 (Fed. Cir. 1988); W. L. Gore and Associates, Inc. v. Garlock, Inc., 721 F. 2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983). As the Court of Appeals for the Federal Circuit stated in In re Kotzab, 55 U.S.P.Q. 2d 1313, 1316-17 (Fed. Cir. 2000):

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *Dembiczak*, 175 F.3d at 999, 50 U.S.P.Q.2D (BNA) at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. (BNA) 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2D (BNA) 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See *id.* However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *id.* Rather, to establish obviousness based on a combination of the elements disclosed in the

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prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. See *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2D (BNA) 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. (BNA) 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. See *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582, 37 U.S.P.Q.2D (BNA) 1314, 1318 (Fed. Cir. 1996).

The Board, in Ex Parte Levengood, 28 U.S.P.Q. 2d 1300 (Bd. Pat. App. & Int. 1993) reversed the rejection of all claims "because the examiner has used the wrong standard of obviousness.":

"Obviousness is a legal conclusion, the determination of which is a question of patent law. In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963). In order to establish a *prima facie* case of obviousness, it is necessary for the examiner to present evidence<sup>1</sup>, preferably in the form of some teaching, suggestion, incentive or inference in the applied prior art, or in the form of generally available knowledge, that one having ordinary skill in the art would have been led to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. See, for example, Carella v. Starlight Archery, 804 F.2d 135, 231 USPQ 644 (Fed. Cir. 1986); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985).

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"...the examiner may provide an explanation based on logic and sound scientific reasoning that will support a holding of obviousness. In re Soli, 317 F.2d 941, 137 USPQ 797 (CCPA 1963)<sup>2</sup>...

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...

"In this case, however, the only suggestion for the examiner's combination of the isolated teachings of the applied references improperly stems from appellant's disclosure and not from the applied prior art. In re Ehrreich, 590 F.2d 902, 200 USPQ 504 (CCPA 1979). At best, the examiner's comments regarding obviousness amount to an assertion that one of ordinary skill in the relevant art would have been able to arrive at appellant's invention because he had the necessary skills to carry out the requisite process steps. This is an inappropriate standard for obviousness. See Orthokinetics Inc. v. Safety Travel Chairs Inc., 806 F.2d 1565, 1 USPQ 2d 1081 (Fed. Cir. 1986). That which is within the capabilities of one skilled in the art is not synonymous with obviousness. Ex Parte Gerlach, 212 USPQ 471 (Bd. App. 1980). ... That one can reconstruct and/or explain the theoretical mechanism of an invention by means of logic and sound scientific reasoning does not afford the basis for an obviousness conclusion unless that logic and reasoning also supplies sufficient impetus to have led one of ordinary skill in the art to combine the teachings of the references to make the claimed invention.

"Our reviewing courts have often advised the Patent and Trademark Office that it can satisfy the burden of establishing a *prima facie* case of obviousness only by showing some objective teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that 'would lead' that individual 'to combine the relevant teachings of the references.' In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). In re Newell, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Accordingly, an examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done."

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1. The importance of evidence in the examination process is set forth in the following quotation from In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984): "The Supreme Court in Graham v. John Deere Co., 383 U.S. 1, 148 U.S.P.Q. 459 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under section 103. As adapted to ex parte procedure, Graham is interpreted as continuing to place the 'burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103'. In re Warner, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967). After a *prima facie* case of obviousness has been established, the burden of going forward shifts to the applicant."

2. Preferably the examiner's explanation should be such that it provides that impetus necessary to cause one skilled in the art to combine the teachings of the references to make the proposed modification. In re Albrecht, 514 F.2d 1385, 185 USPQ 585 (CCPA 1975).

As the Court of Appeals for the Federal Circuit recently stated in Yamanouchi Pharmaceutical Co. v. Danbury Pharmacal Inc., 56 U.S.P.Q. 2d 1641 (Fed. Cir. 2000) at 1644:

This court has recently reemphasized the importance of the motivation to combine:

As this court has stated, "virtually all [inventions] are combinations of old elements." Therefore, an examiner [or accused infringer] may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art

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corollaries for the claimed elements would permit an examiner [or accused infringer] to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention.

....

...To counter this potential weakness in the obviousness construct, the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.

In re Rouffet, 149 F.3d 1350, 1357-58, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998) (internal citations omitted).

For the instant application, the Examiner also appears to have attempted to use the claimed invention as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. This method is clearly impermissible. Nothing in any of the cited references teaches or suggests the combination of elements recited in the instant claims.

In response to Applicants' position that there is no disclosure in any of the cited references of the number of cationic sites on the polyquaternary amine for every one anionic site on the lightfastness agent or for every one anionic site on the anionic dye, as set forth in the previous Amendment with respect to the rejection of claims 1 to 8 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of Vieira et al. and the rejection of claims 1 to 7 and 11 to 20 under §103 as being unpatentable over Gundlach et al. in view of



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Yokoyama et al., the Examiner has stated that while there is no explicit disclosure in the cited prior art of the number of cationic sites on the polyquaternary amine for every one anionic site on the lightfastness agent or for every one anionic site on the anionic dye, Gundlach et al. discloses that the number of cationic sites on the polyquaternary amine compound must be larger than the number of anionic sites on the dye to prevent precipitation of the polymer, and that since Gundlach et al. discloses that the number of cationic groups should be larger than the number of anionic groups to avoid precipitation, it would have been obvious to one of ordinary skill in the art, absent evidence to the contrary, to control the number of cationic sites on the polyquaternary amine per one anionic site on the dye or per one anionic site on the lightfastness imparting agent to values, including that presently claimed, to prevent precipitation and to produce an ink with excellent shelf stability, thereby arriving at the claimed invention.

Applicants disagree with this position. While Gundlach et al. provides general guidance with respect to desirable ratios of anionic dye to polyquaternary amine, it does not provide guidance to one of ordinary skill in the art in determining desirable relative ratios of anionic lightfastness-imparting agent to polyquaternary amine molecule when the ink contains a complex of an anionic dye, an anionic lightfastness-imparting agent, and a polyquaternary amine compound. In addition, this reference provides no guidance to one of ordinary skill in the art in determining desirable relative ratios of anionic lightfastness-imparting agent to anionic dye when the ink contains a complex of an anionic dye, an anionic lightfastness-imparting agent, and a

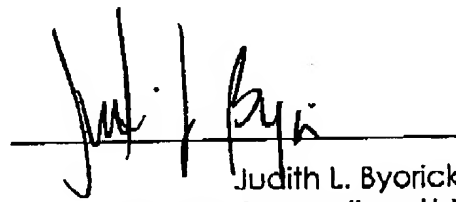
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polyquaternary amine compound. Accordingly, Applicants remain of the position that claims 12 and 13 are particularly in condition for allowance.

Applicants believe that the foregoing distinctions place the claims in condition for allowance, and accordingly respectfully request reconsideration and withdrawal of all grounds for rejection.

In the event the Examiner considers personal contact advantageous to the disposition of this case, she is hereby authorized to call Applicant(s) attorney, Judith L. Byorick, at Telephone Number (585) 423-4564, Rochester, New York.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Judith L. Byorick', is written over a horizontal line.

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